The Bulletins are published weekly throughout the school year (thirty issues) to aid teachers and students in keeping abreast of geography behind current news events.

GEOGRAPHIC SCHOOL BULLETINS

of

The National Geographic Society

WASHINGTON 6, D. C.

The National Geographic Society is a non-profit educational and scientific Society established for the increase of geographic knowledge and its popular diffusion.

VOLUME XXX March 24, 1952 NUMBER 24

1. Indochina Today Knows Both War and Peace
2. India's Bilaspur State Faces Watery Grave
3. America's Birds Return from Winter Travels
4. Wood Uses Increase as Conservation Spreads
5. Westward Isles Give Hawaii 1,590-Mile Span

(SEE BULLETIN NO. 2)

VICTOR KAYFETZ FROM THREE LIONS

TWO SIKH PRIESTS FROM THE PUNJAB ATTEND A FESTIVAL IN DELHI, INDIA'S CAPITAL

One squats while the other sits tailor fashion. Both ways are typically Indian. Sikh characteristics are their uncut hair and beards, knee-length drawers, iron bracelets, short swords in their belts, and iron combs under their turbans—all customs ordained by their religion.

Bulletin No. 1, March 24, 1952

Indochina Today Knows Both War and Peace

WHILE the French forces battling for their lives against communist rebels in north Indochina are falling back to a tight perimeter defense around Hanoi, quiet reigns for the time being within Saigon, Indochinese metropolis 700 miles to the south.

From a *National Geographic Magazine* writer-photographer team presently touring the southeast Asian country, word comes that "Saigon is quiet—no grenades for some time."

Traffic Reminds Americans of Home

Indicating that they did not know how long the peaceful conditions would exist, the Geographic staff men found Saigon's February climate pleasant and warm, but not hot. There was always a breeze. They reported that "the city looks like a provincial French capital in its European section—the main boulevards are wide and shady. It bustles with activity, and the river is full of shipping.

"Chief means of getting about is by pedicab or cyclo-motor, a scooter with carriage on front. They dodge in and out of traffic, and remind Americans of speeded-up old movies of traffic scenes.

"We walked the streets of the Chinese part of town—Cholon," the report continues. "Watched a sidewalk dentist at work, saw fortunetellers amazing gullible clients, and witnessed a Chinese play in the courtyard of a Buddhist temple."

Meanwhile, the struggle for rice and prestige continues in north Indochina. The area the French and French-led Viet Nam forces control there comprises the rich Red River delta, a rough equilateral triangle whose apex is less than 100 miles inland, just above Hanoi on the river.

Rice Production Falls

The delta, continually enriched by alluvial soil brought down from the mountains bordering communist China on the north and Laos on the west, is one of Viet Nam's two rice bowls. Along with the Mekong delta around Saigon in South Viet Nam (Cochin China), the Red River coastal area produces enough grain in normal times to make the nation a rice exporter.

The war, however, has materially reduced rice production in North Viet Nam (Tonkin), and reduced the food supply for Viet Nam's 22,000,000 population.

Viet Nam, with an area of about 125,000 square miles, slightly greater than New Mexico, forms the eastern part of the Indochinese peninsula which plunges southward nearly 1,000 miles from China into the South China Sea. The country lies entirely in the tropical zone.

Aside from the Red and Mekong river deltas, and narrow strips of plain along the central, or Annam, coast, Viet Nam is ruggedly mountainous, with some of the hills exceeding 8,000 feet. The backbone of the

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WILLIAMS STUDIO

(SEE BULLETIN NO. 5)

LIKE A RUMPLED PATCHWORK QUILT, ACRES OF PINEAPPLES PATTERN THE WINDWARD SIDE OF NUUANU PALI, A GAP IN OAHU'S KOOLAU RANGE

Occasional patches of sugar cane interrupt the regularity of Hawaii's "pines," like shag rugs strewn casually about the landscape. The highway through the pass and down the windward cliffs is so graded that it is nowhere very steep. Through the Pali the northeast trade winds rush with such tremendous force that it is hard to stand at the lookout point. Outlying humps of the Koolaus rise between the plantations and the sea. For 50 years Hawaii has grown, canned, and exported the popular pineapple.

Bulletin No. 2, March 24, 1952

India's Bilaspur State Faces Watery Grave

THE existence of states and nations often has depended on the outcome of wars and the signing of peace treaties. But seldom has a state vanished by drowning. One scheduled to do so is India's tiny Bilaspur, whose area has survived centuries of warfare pocketed in the folds of the Himalayas. Its nearest well-known neighbor is Simla, India's former highland summer capital 170 miles north of Delhi.

Bilaspur soon will disappear under tons of water. Indian engineers with the help of American experts are constructing one of the world's highest dams (680 feet) below the lower end of the state. In the shadow of the world's highest mountain range, this colossal project, which also includes another near-by dam, will control the Sutlej River, one of the five big watercourses traversing the region. Bilaspur is one of the many states in the Punjab, a large subdivision of India. Punjab is an ancient Persian name meaning "five rivers."

More Land for Farming

The next five years will be busy ones for the 110,000 people of Bilaspur. As their 453 square miles sink to oblivion, they must find other homes. But, by submerging a relatively small area, this double project will give farmers, through irrigation, eleven times as much land—an area larger than the State of Connecticut. The Indian government hopes that the reclaimed acres will produce some 1,300,000 tons of vitally needed food each year, plus millions of bales of cotton.

Bilaspur has been a peaceful independent state for the past 100 years. Its capital, Bilaspur Town, has 3,000 inhabitants. It stands on the left bank of the Sutlej, 1,465 feet above sea level. It claims a number of stone houses, a bazaar, a dispensary, and a school.

The rajah lives in a neat but unpretentious palace in Bilaspur Town. His British overlords of the past accorded him a dress of honor and an 11-gun salute. They also specifically indicated the limit of his military force—11 cavalry, 187 infantry (including gunners and police), and two field guns. His people, scattered over the land and in the state's 421 villages, always have been primarily agricultural. They raise a variety of products including grain, tobacco, and ginger.

A Turbulent History

Life was not so peaceful at the beginning of the 19th century. Then the warlike Gurkhas swarmed in from near-by Nepal and nearly destroyed Bilaspur Town. The Gurkhas originally lived in Rajputana in western India. Driven from their homes by the Moslem rulers several centuries ago, they fled to the hills of eastern Punjab and Nepal. They get their name from the "kukri," a short curved knife or sword which they always carry.

In 1815, the British drove the Gurkhas out of Bilaspur and reinstated the local rajah. They confirmed the ruler's lands in his tiny principality after they had conquered the whole Punjab from the Sikhs in 1848. The

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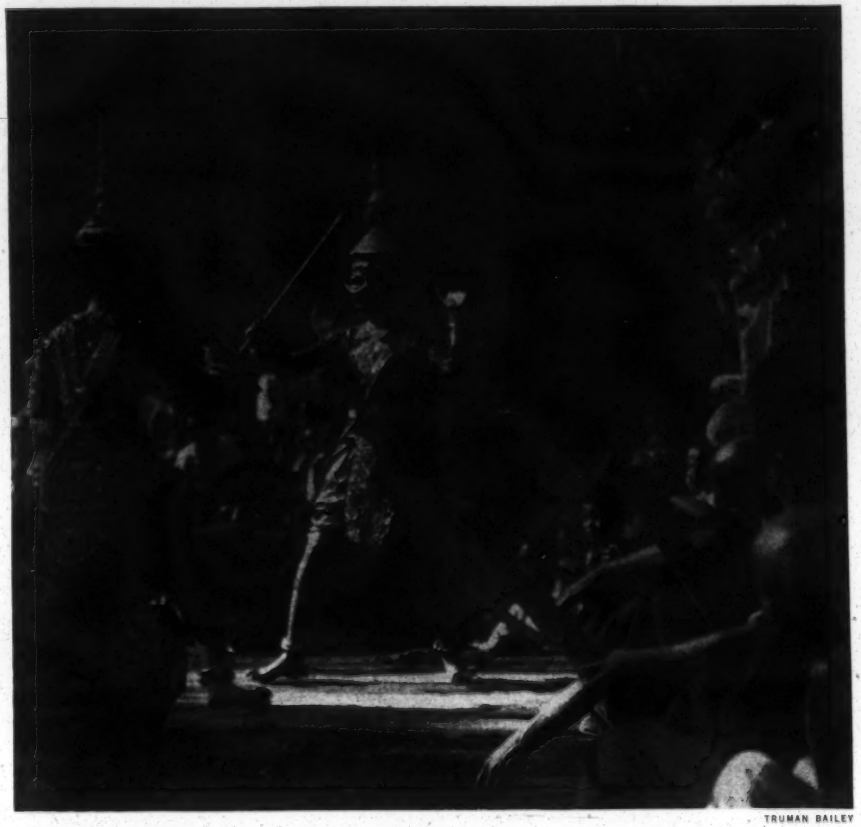
Indochinese peninsula, the Annamese Cordillera, runs roughly south and east from China for a short distance inland from the China Sea.

Cambodia (illustration, below) and Laos did not join Cochin China, Tonkin, and Annam when the new state of Viet Nam was formed after World War II. However, the two interior portions of old French Indochina remain linked in destiny with Viet Nam by reason of their mutual association with France.

NOTE: Indochina appears on the National Geographic Society's map of Southeast Asia. Write the Society's headquarters, Washington 6, D. C., for a price list of maps.

For further information, see "Portrait of Indochina," in the *National Geographic Magazine* for April, 1951; "Strife-torn Indochina," October, 1950; "By Motor Trail Across French Indo-China," October, 1935; and "Along the Old Mandarin Road of Indo-China," August, 1931 *(Back issues of the Magazine may be obtained from the Society's headquarters at 60¢ a copy, 1946 to date; $1.00, 1930-1945; and $2.00, 1912-1929. Earlier issues, when still in print, varied prices.)*

See also, in the GEOGRAPHIC SCHOOL BULLETINS, January 8, 1951, "Indochina Warfare Menaces French Hanoi"; "Rugged Ground Hampers French in Indochina," October 16, 1950; and "Viet Nam Replaces Three Indochinese States," February 27, 1950.



TRUMAN BAILEY

IN RUINED ANGKOR, ONCE A CITY OF A MILLION, DANCERS DUPLICATE THE POSES OF A LONG-DEPARTED RACE

On the Cambodian plain 1,000 years ago the Khmers built this massive city of stone and decorated it with countless sculptures of dancing girls, prince-carrying war elephants, and four-faced deities. Today, tigers roam the ghostly city's jungle-grown avenues.

Bulletin No. 3, March 24, 1952

America's Birds Return from Winter Travels

AS seasoned and instinctive globe-trotters, sure in the ways of travel, the nation's birds are without peer. Millions of them—America's most-traveled residents—now are returning from vacations abroad. Without the benefit of planned tours or airline reservations, and minus compass, radio, and motor, they are flying unerringly homeward via unmarked sky routes.

These routes, mapped by some feathered Columbus ages ago and traversed by every succeeding bird generation, are known to man as the Atlantic, Mississippi, Central, and Pacific flyways. The well-nigh incredible itineraries of various species have been only recently pieced together by scientific methods of bird-watching along these flyways.

Birds as Quick-change Artists

Lacking modern methods and world-wide communications, early man sought to answer why, where, and how birds travel. The Greek philosopher and naturalist, Aristotle, believed that a number of birds, including swallows, storks, kites, and doves, hibernated in the winter, passing the season in a torpid state hidden in trees, caves, and muddy marshes. His theory persisted well into the 19th century.

The presence of some species in Greece the year round apparently led Aristotle to believe that birds were quick-change artists. He declared that winter varieties simply changed their plumage to become summer birds. Others thought that small flyers rode as passengers on the backs of larger ones, while a 19th-century writer proposed that, in reality, birds wintered on the moon.

Today's fact is no less interesting than yesterday's fancy. For example, the little American barn swallow (illustration, next page) allows neither his size (less than seven inches) nor the distance to deter him from spending his winter holiday in southern Brazil and Paraguay. Every spring this bird can be seen winging home across the Caribbean Sea to join the farmer in his war with insects.

Although the barn swallow has been known to fly 350 miles nonstop, he is a leisurely traveler compared to the cheerful, colorful lesser yellowlegs of New England. One of these speed demons flew from Cape Cod to Martinique, in the French West Indies, in a scant six days, averaging a daily distance of more than 316 miles.

Males Fly Ahead to Prepare Sites

Some bird families appear more sociable than others and enjoy mixed company on their long trips. Most gregarious are wood warblers who are likely to fly home with the first jolly group that comes along. Other friendly families are swallows, sparrows, and blackbirds.

Curiously enough, and for romantic reasons, the males among the red-winged blackbirds, robins, and rose-breasted grosbeaks, scarlet tanagers, and long-billed marsh wrens usually prefer to travel without female companionship. They go ahead to select nesting sites in preparation for

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Sikhs (illustration, cover) are another Hindu group of the area. Since these wars, both Sikhs and Gurkhas have served with marked distinction in the British and Indian armies.

In 1948 India became independent. It reorganized and consolidated its 584 states into 26, but left tiny Bilaspur separate and intact.

Long before Lilliputian Bilaspur became a state, however, its lands shared the history of the Punjab. Three centuries before Christ, Alexander the Great passed within 100 miles of present-day Bilaspur. It remained on the fringe of subsequent Indian empires for the next 1,300 years. By 1030, Moslem invaders, sweeping in from the west, had conquered it. The Moguls, as these Moslems were called, held Bilaspur until the end of the 18th century when their mighty empire began to break up.

NOTE: The Punjab may be located on the Society's map of India and Burma.

For further information, see "India Mosaic" and "India's Treasures Helped the Allies," in the *National Geographic Magazine* for April, 1946; "India—Yesterday, Today, and Tomorrow," October, 1943; "British Commonwealth of Nations," April, 1943; and "In the Realm of the Maharajas," December, 1940.

VOLKMAR WENTZEL

INDIAN GIRLS ADMIRE A LACELIKE SCREEN OF CARVED MARBLE IN AN OLD MOGUL FORT

The one in the center displays a Hindu sari of shimmering silk. The other two wear the costume of the Punjab called a *salwar*. It consists of pajamalike trousers with a long blouse and a finely woven scarf worn backwards across the shoulders.

Bulletin No. 4, March 24, 1952

Wood Uses Increase as Conservation Spreads

FOR those prophets who, earlier in the century, foresaw a fade-out for wood as a key material of industry—a second guess is in order.

Metal and concrete would go far toward supplanting wood in all phases of building construction, they said. Metals would inherit many of wood's duties in the furniture and transportation trades. And they were right, to a certain extent. But a few thousand wood uses remained, and a few thousand more have developed. Among old and new uses, several have expanded far beyond early expectations.

Europe's Forests Carefully Managed

The whole field of wood chemistry, for example, has opened wide in the last decade. Bringing such words as lignin, cellulose, and wood sugar to the language, it singlehandedly indicates that wood's greatest era may lie ahead.

As wood uses increase, so does the concern of the world's industrial nations over their wood supply. Forests cover about three-eighths of Europe and figure importantly in the economy of its nations. Europe leads the world in intensive lumbering methods and, quite necessarily, in careful management of the renewable timber crop.

Europe's experienced foresters are, for the most part, the men assigned to give technical assistance in a dozen or more United Nations projects now under way. These projects, sponsored by the UN's FAO (Food and Agricultural Organization), are intended to reach great stands of virgin timber, mostly in the tropics.

An aggressive forest-regeneration policy maintains the Union of South Africa as the biggest commercial timber producer of its continent, despite the fact that the union is one of Africa's least-wooded areas. Tanganyika has started cutting fine hardwoods from a big forested area on a long-lease basis. In Malaya, reforestation is a feature of the heavy timber-cutting program. The young Philippine Republic systematically replenishes trees of its renowned hardwood forests that now produce in prewar volume.

United States Output Largest

Reforestation of Canadian wastelands now helping to perpetuate paper-pulp stock production in North America began as early as 1905. Australia, with a narrow forest belt lying inland along its east and southwest coasts, cuts many of its eucalypts, only slightly smaller than North America's giant sequoias. It now turns to its New Guinea territories on the north for the pine, cedar, and other timbers its own limited forests lack.

Yugoslavia puts lumbering high in its present strained economy, building roads and railways to exploit its large highland forest area. It exports timber to some 30 countries. The Soviet Union, claiming one-fourth of the world's woodlands, scheduled 20,000 miles of new roads and narrow-gauge railway trackage to bring out the timber.

Biggest producer of all, the United States is one-third forest covered.

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the females' return. The gallant wren may build several dummy nests so his lady can choose her favorite.

To other birds—chiefly ducks, geese, and some shore varieties—the journey north each spring is a honeymoon trip or an opportunity for a kind of "shipboard romance," the newly mated pairs flying north together.

In the fall, among shore birds nesting within the Arctic Circle, the story is slightly different. Ornithologists report that the males are often left with the care of the eggs and young while their ladies fly off to more agreeable southern climes.

NOTE: For additional information on birds, refer to the *Cumulative Index to the National Geographic Magazine* in your library. This volume lists the many articles on birds published by the Society.

See also, in the GEOGRAPHIC SCHOOL BULLETINS, January 28, 1952, "Animal World Has Social Classes, Too"; "Born Travelers, Birds Seek Southern Resorts," October 15, 1951; and "Birds Flying Home to Resume Insect Control," March 12, 1951.

ARTHUR A. ALLEN

MANY A FARMER, COMING UPON SUCH A SCENE, HAS FELT LIKE AN INTRUDER IN HIS OWN BARN

Barn swallows choose buildings instead of trees for their mud nests. This adult, dressed in its steel-blue "swallow-tail" coat, brings an insect lunch for its offspring. The swallow's large mouth is suited to catching mosquitoes and other insects in flight.

Bulletin No. 5, March 24, 1952

Westward Isles Give Hawaii 1,590-Mile Span

LOST in the swells of the vast Pacific Ocean is a string of small "mountain-top isles" almost forgotten except by map makers, a few United States servicemen, and ornithologists.

However, if the Territory of Hawaii becomes one of the United States, these obscure little islands will share in the changed status of their larger, better-known sisters—Hawaii, Maui, Molokai, Lanai, now-uninhabited Kahoolawe, Oahu (illustration, inside cover), and Kauai.

Chiefly Inhabited by Birds

Stretching northwestward from Kauai—westernmost of the larger islands—the little clusters and atolls are strung out like steppingstones to tiny Kure (Ocean) Island, the period at the end of the line—reading from right to left, Oriental-wise.

Scarcely more than mountain peaks jutting from the sea, these leeward Hawaiian isles are of little economic importance. However, they have some military and navigational value, and all except Midway and Kure are part of a government bird reservation. Midway (a stop on the first airline from California to the Orient) and Kure are under the Navy.

Niihau, lying slightly south and west of Kauai, may be classed in either group. Of the larger, it is seventh in size, ranking before Kahoolawe, whose destroyed vegetation makes cattle raising no longer possible. If put in the category of the smaller islands, Niihau is the only inhabited one, excepting those where Coast Guard personnel are stationed. Fewer than 300 people live on the island's 72 square miles. It is owned by descendants of a Scottish widow who bought it from King Kamehameha IV nearly a century ago and settled there with her children and grandchildren.

This family has done everything possible to preserve the old Hawaiian "way of life." No one may visit Niihau without permission of a resident. As a consequence of the owners' interest, and the remote location, the largest-remaining group of pure-blooded Hawaiians makes its home on Niihau. The chief occupation is stock raising for the owners.

Coast Guard Maintains Stations

Until World War II brought radio in the wake of the Japanese, Niihau's only communication with the outside world, apart from private boats, was by beacon fires. One detached Japanese pilot of the group attacking Pearl Harbor ran out of gas and had to land on Niihau. After terrorizing the islanders, he was killed by one of them.

Today the United States Coast Guard maintains Loran (Long Range Aid to Navigation) stations on Niihau, and on an island in French Frigate Shoal—an 18-mile semicircle of reefs and rocks. During World War II, Tern, in French Frigate Shoal, became a virtual stationary aircraft carrier when an airstrip was built there.

Both Nihoa—nearest island to Niihau on the west—and Necker show signs of past human habitation. Many stone images found on Nihoa have been removed to the Bishop Museum in Honolulu, but low stone founda-

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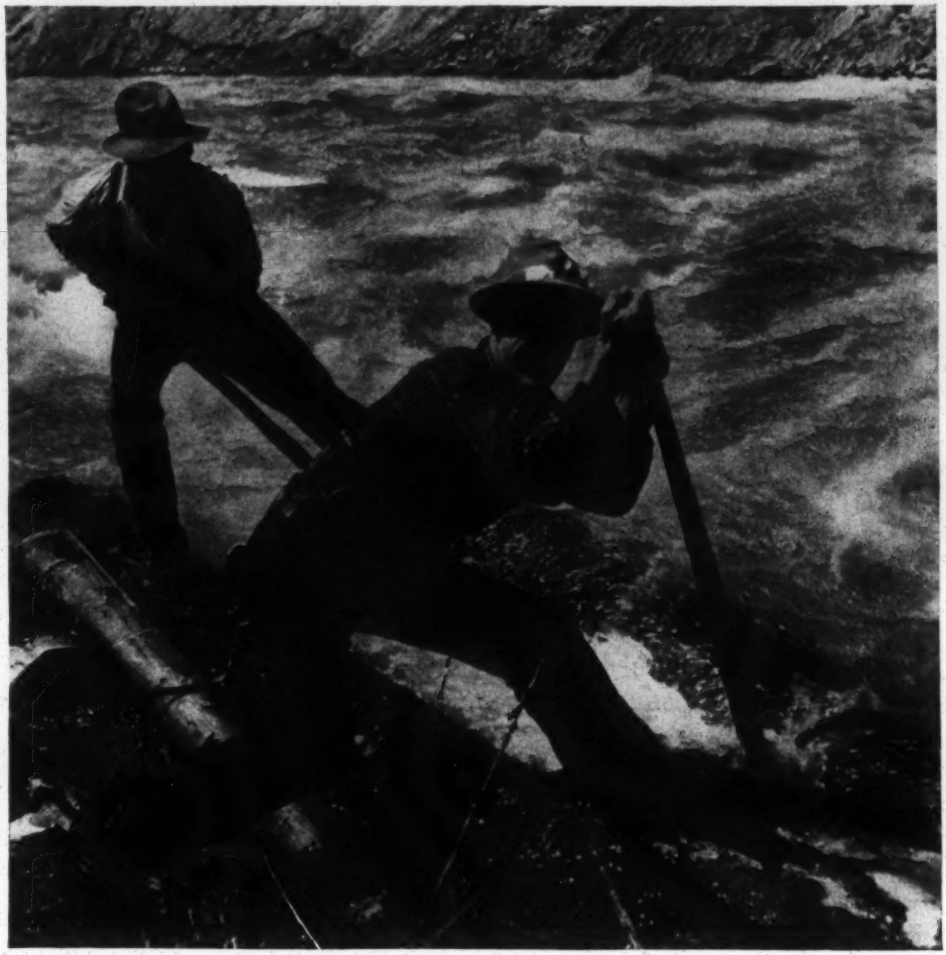
Its woodlands yield some 50 billion board feet a year. Notably wasteful in the past, the nation's forest industries have increased their replenishing and conserving activities in recent years. In 1950, some 600 square miles of United States forest land were planted in trees for future commercial use.

NOTE: For additional information, see "Versatile Wood Waits on Man," in the *National Geographic Magazine* for July, 1951; "Newfoundland, Canada's New Province," June, 1949; "Dixie Spins the Wheels of Industry," March, 1949; "Forest Lookout," July, 1946; "Chemists Make a New World," November, 1939; "California's Coastal Redwood Realm," February, 1939; "Working Teak in the Burma Forests," August, 1930; and "Saving the Redwoods," June, 1920.

See also, in the GEOGRAPHIC SCHOOL BULLETINS, October 23, 1950, "Proper 'Farming' to Assure Sequoia's Future."



ROSS HALL

ON IDAHO'S CLEARWATER, LOGGERS BATTLE THE SPRING FRESHET TO BRING TIMBER TO THE MILL

Lumberjacks ride the logs, balancing and dancing like acrobats in hobnails. When jams occur, they use peaveys—hooked arcs of steel at the ends of wooden poles—to dislodge the key log. They work fast to move all cut timber downstream before the water level drops with summer.

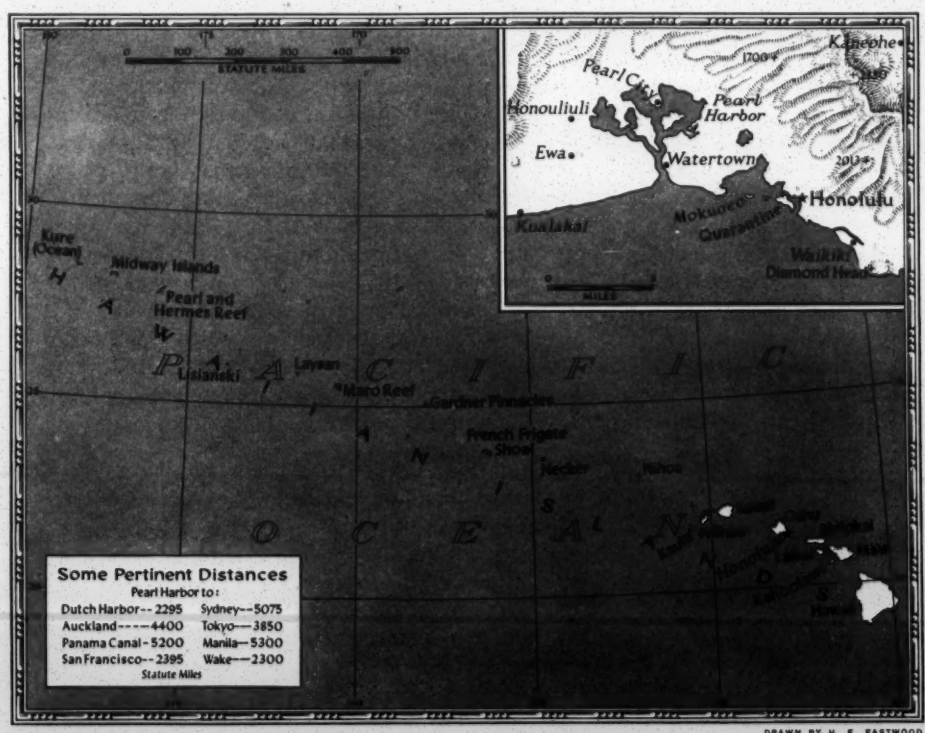
tions of ancient temples still remain. All the islands are resorts of sea birds. The tern gave its name to one of the French Frigate Shoals.

Laysan, near mid-point of the "Bird Islands," is noted for the number and variety of its bird population. Among the most beautiful is the albatross which takes its name from the island. The birds which yearly descend on the island include the sooty albatross, a more somber relative of the snowy Laysan; the frigate bird, the tern, and the shearwater.

Since most of the islands are ringed with coral, navigation among them is difficult. Lisianski Island and Pearl and Hermes Reef, for example, were discovered when ships were wrecked on their treacherous coral heads. The pinnacle reef, La Perouse, got its name after a similar disaster. One moonlit night in 1786, the French explorer whose name it bears sighted the island and mistook its peculiar shape for a full-rigged sailing ship. One of his ships, the *Broussole*, missed piling up on the rocks by a scant 600 feet. In the years that followed, other ships have been less fortunate.

NOTE: The Hawaiian Islands are shown on the Society's map of the Pacific Ocean and the Bay of Bengal, on which they appear in a large-scale inset.

For further information, see "Because It Rains on Hawaii," in the *National Geographic Magazine* for November, 1949; "American Pathfinders in the Pacific," May, 1946; "Life on the Hawaii 'Front'," October, 1942; "Hawaii, Then and Now," October, 1938; "Bird Life Among Lava Rock and Coral Sand," July, 1925; and "The Hawaiian Islands," February, 1924; see also, in the GEOGRAPHIC SCHOOL BULLETINS, April 16, 1951, "Mauna Loa's Fireworks Are Hawaiian Asset."



DRAWN BY H. E. EASTWOOD

LIKE THE TAIL OF A COMET, HAWAII'S SMALL ISLANDS TRAIL WESTWARD FROM THE MAIN GROUP